

# Notice of Allowability

Application No.

10/666,206

Examiner

Naheed Ejaz

Applicant(s)

BISWAS ET AL.

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 14 January 2008.
2. ☒ The allowed claim(s) is/are 1-11, 13-16 & 18-20 renumbered as 1-18.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

**DETAILED ACTION**

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Timothy N. Trop (Reg. No. 28,994) on February 06, 2008.

2. The Application has been amended as follows:

In the claim:

- Claim 15, "machine-accessible" (line 1) has been changed to ---computer readable---
- Claim 15, "instructions for execution by a machine" (lines 1-2) has been changed to ---instructions, when executed by a computer--.

***Reasons for Allowance***

3. Computer readable medium is not being read as signal or carrier wave.
4. Claims 1-11, 13-16 & 18-20 are allowed.
5. The following is an examiner's statement of reasons for allowance:
6. With respect to claims 1-9, the prior art of record fails to teach or suggest a decoder, comprising: an index mapper circuit to determine a constellation index corresponding to the received symbol based on the received symbol and the two constellation points that are proximate the received symbol; and a coset selector circuit to receive successive constellation

indices from the index mapper and to determine a number of nearest cosets to the successive constellation indices as recited in an independent claim 1 and in combination with other elements of the claim.

7. With respect to claims 10, 11, 13 & 14, the prior art of record fails to teach or suggest a method of decoding data, comprising: combining the received symbol and at least one of the two constellation points to produce at least one difference value; identifying a constellation index corresponding to the received symbol based on the two constellation points and the at least one difference value; and determining at least four nearest cosets to successive constellation indices as recited in an independent claim 10 and in combination with other elements of the claim.

8. With respect to claims 15, 16, 18 & 19, the prior art of records fail to teach or suggest a computer readable medium including instructions, when executed by a computer, comprising: instructions for identifying two constellation indices that correspond to the two constellation points; instructions for interpolating between the two constellation indices to produce a constellation index corresponding to the received symbol; and instructions for determining a number of nearest cosets to a pair of successive constellation indices corresponding to received symbols as recited in an independent claim 15 and in combination with other elements of the claim.

9. With respect to claim 20, the prior art of records fail to teach or suggest a system, comprising: an index mapper arranged to determine a constellation index corresponding to the received symbol based on the received symbol and the two constellation points that are proximate the received symbol; a hard disk proximate the constellation mapper; and a coset selector to receive successive constellation indices from the index mapper

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and to determine a number of nearest cosets to the successive constellation indices as recited in an independent claim 20 and in combination with other elements of the claim.

10. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Tong et al. (2003/0039318) teach system and method performing Quadrature Amplitude Modulation by combining co-sets and strongly coded co-set identifiers.
- Morelos-Zaragoza et al. (6,138,265) teach decoding Trellis coded modulated data with a conventional Viterbi decoder.

### *Contact Information*

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naheed Ejaz whose telephone number is 571-272-5947. The examiner can normally be reached on Monday - Friday 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

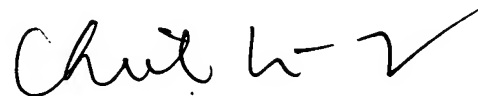
Naheed Ejaz

Examiner

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3/3/2008

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CHIEH M. FAN  
SUPERVISOR, PATENT EXAMINER